

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Lothar GINZEL et al.

Serial No.: 10/586,077

Filed: August 29, 2006

For: Door Closer With a Drive

Examiner: O'Brien, Jeffrey D.

Group Art: 3677

Commissioner for Patents
Alexandria, VA 22313-1450

APPEAL BRIEF

SIR:

This is an appeal, pursuant to 37 C.F.R. §41.37 from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action wherein claims 18 to 35 were finally rejected. The rejected claims are reproduced in the Appendix A attached hereto. A Notice of Appeal was filed on June 26, 2009.

The fee of \$540 for filing an Appeal Brief pursuant to 37 C.F.R. §41.20 is submitted herewith. Appellants request a one-month extension of time to file this Appeal Brief. A Petition for the one-month extension of time is enclosed herewith along with the fee of \$130.

Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

REAL PARTY IN INTEREST

The assignee, Dorma GmbH + Co. KG, of applicants, Lothar GINZEL et al., is the real party of interest in the above-identified U.S. Patent Application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals and/or interferences related to the above-identified application at the present time.

STATUS OF CLAIMS

Claims 1-17 have been cancelled. Claims 18-35 are pending and have been finally rejected. Claims 18-35 are on appeal.

STATUS OF AMENDMENTS

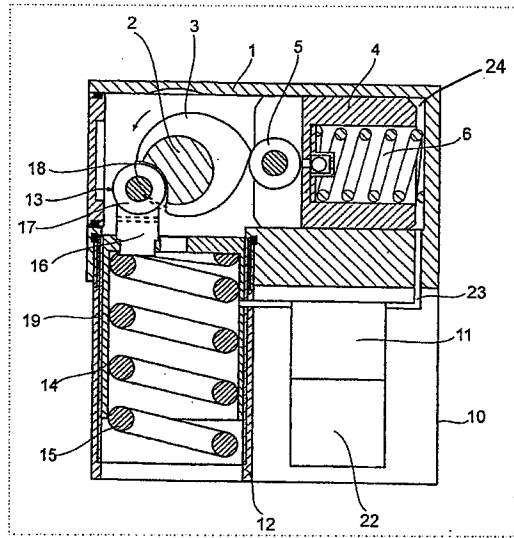
An Amendment was filed on May 26, 2009, subsequent to the Final Office Action dated February 26, 2009. As is indicated in the Advisory Action, the Amendment will be entered for purposes of appeal. No claim amendments have been filed subsequent to the Final Office Action.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The following descriptive details are based on the subject matter described in the specification. In the following summary, the paragraph and line numbers refer to those in the specification as originally filed.

Appellants' application is directed to a door closer, as is shown in Fig. 1 (reproduced below). The door closer has a housing (1) with a longitudinal housing direction. A shaft (2) is rotatably supported in the housing (1) and connectable to a door (see para. [0027], ll. 2-3). In one example, the shaft (2) supports an eccentric disc (3), which engages with a roller (5) supported at a brake piston (4) (see para. [0027], ll. 3-5).

The brake piston (4) is longitudinally displaceably supported in the housing (1) and urged into the direction of the shaft (2) by a spring (6) (see para. [0028], ll. 1-4). The brake piston (4) and the housing (1) define a first space (24) away from the shaft (2) (see paragraph [0027] as amended in Appellants' Preliminary Amendment filed July 14, 2006).



A tube-shaped bushing (12) extends orthogonally to the longitudinal housing direction and is detachably disposed in the housing (1) (see para. [0031], ll. 1-3). A blocking member (13) is longitudinally displaceably supported in the tube-shaped bushing (12) and operable to lock the shaft (2) in position (see para. [0031], ll. 3-4 and para. [0012], ll. 1-6). The blocking member (13) has a cup-shaped insert (14), which is supported within the tube-shaped bushing (12) and urged into the shaft direction by a spring (15) extending orthogonally to the longitudinal housing direction (see para. [0031], ll. 4-8).

A pump (11) is disposed in a second space formed between the housing (1) and the first spring (15) for pumping a brake fluid at least one of to and from the first space (24) (see para. [0032], ll. 1-4 and 7-9).

The door closer of the subject application presents a more compact housing shape and is thus easier to accommodate, particularly in the floor, and is likewise suitable for single action doors (see para. [0003], ll. 1-5).

GROUND OF REJECTION TO BE REVIEWED IN APPEAL

Whether claims 18-35 were properly rejected under 35 U.S.C. § 103(a) over U.S. Patent 4,658,468 to Tillmann in view of U.S. Patent Application Publication 2003/0213092 to Fischbach.

ARGUMENT

Based on the detailed reasons below, appellants submit that the Examiner failed to establish a *prima facie* case of obviousness against independent claim 18 based on the combined teachings of Tillmann and Fischbach. The Final Rejection of claims 18-35 should be reversed.

A. Legal Principle

Section 2143 of Manual of Patent Examining Procedure (MPEP) provides examples of the basic requirements for *prima facie* obviousness. More specifically, MPEP §2143, citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385 (2007), states that when a rejection is made combining prior art element, the Examiner must articulate (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference; and (2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately.

B. Independent Claim 18 is Not Obvious Over the Cited References

Independent claim 18 recites a door closure having “a first spring ... extending orthogonally to the longitudinal housing direction” and “a pump for pumping a brake fluid at least one of to and from the first space.” The above recited features of independent claim 18 are not taught by Tillmann and Fischbach because:

(i) The claimed invention requires more than a mere rearranging of the elements in Tillmann’s elongated door check into an orthogonal configuration in order to operate properly, and

(ii) Without any teaching or suggestion as to how Tillmann can be modified to include a brake fluid pumping system, it is not obvious to combine Tillmann and Fischbach to pump “a brake fluid at least one of to and from the first space,” as recited in independent claim 18.

(i)

The claimed invention requires more than a mere rearranging of the elements in Tillmann's elongated door check into an orthogonal configuration in order to operate properly.

The Office Action acknowledges that the combined Tillmann and Fischbach fails to teach "a first spring ... extending orthogonally to the longitudinal housing direction" as recited in independent claim 18, but takes the position that independent claim 18 is a rearrangement of the combined references. More specifically, the Examiner states that the spring blocking member 28 and roller 26 of Tillmann would maintain the same function if rearranged to be located orthogonally to the longitudinal housing direction (see page 3 of Advisory Action).

Appellants disagree. Tillmann discloses a door closer having an elongated box-shaped unit 12 having a shaft arranged therein. The shaft 13 is connected to an arm 14 so that the shaft is compelled to rotate when the door panel 10 is pivoted relative to the door frame (see col. 4, lines 40-49 of Tillmann). A cam 22 resembling a heart cam is arranged on the shaft 13 (col. 5, lines 6-9 of Tillmann). Figs. 2-3 of Tillmann show the shaft in the angular position in which the door panel is closed (see col. 6, ln. 64). When a person pivots the door panel from the closed position, the shaft pivots and a roller 26 is expelled from the concave portion 23 of the cam 22 against springs 29, 30 so that a substantial resistance is needed until the roller 26 reaches a gradual sloping portion 24 of the cam 22 (see col. 7, lines 1-16). Another roller 35 is arranged on the cam 22 and forms part of a damper (col. 6, lines 11-13). Roller 35 rolls on the cam 22 when the door panel is pivoted.

There is no teaching or suggestion as to how Tillmann's elongated door check can be rearranged into an orthogonal configuration, as is the door closer in the claimed invention. If Tillmann's roller 26, plunger 28, and springs 29, 30 are to be "rotated" for about 90° from what is shown in Fig. 2 and extend orthogonally to the longitudinal direction of the unit 12, such modified door check cannot operate without reconstruction or further modifications of at least the housing 16

and the shape of the cam 22. The elongated housing 16 of Tillmann cannot be “rearranged” to accommodate an orthogonally extending plunger 28 and springs 29, 30, without being reconstructed. Moreover, if the roller 26, plunger 28, and springs 29, 30 of Tillmann are rotated, the cam 22 of Tillmann must also be redesigned/repositioned so that the socket 23 of the cam 22 can receive the rotated roller 26 at an initial position of the door panel. Since both the roller 35 and the roller 26 roll on the cam 22, the Examiner’s proposed modification would required a modification of the cam 22 that would cause interference with the path of one of the two rollers 26, 35. Thus, the mere rearrangement of Tillmann is insufficient to meet the claimed invention.

Furthermore, due to the close proximity of the pivot members 27, 36 in the proposed modification to Tillmann, the plunger 28 may interfere with the roller 35, the pivot member 36, or the bottom wall 45 during the door opening/closing operation. Consequently, additional modifications must be made before the Tillmann can arrive at the configuration of the claimed invention and operate properly as does the claimed invention.

The combination of Tillmann with the teachings of Fischbach also fails to teach or suggest the claimed invention. Tillmann and Fischbach are constructed as respectively a door closer and a door drive. As described above, the door closer in Tillmann employs a cam mechanism. A roller is provided in the cam mechanism and pressed against the cam, which is attached to an output shaft of the door closer/drive. On the other hand, Fischbach teaches a door drive with a toothed rack 3, 4 mechanism (see, e.g., Fig. 7 of Fischbach). The toothed rack 3, 4 in Fischbach meshes with a gear-wheel, which is attached to the output shaft of the door closer/drive. Movement of the toothed rack in Fischbach causes the opening and closing of the door. Thus, the interaction between the toothed rack and shaft of Fischbach fails to teach or suggest how the cam of Tillmann should be modified to meet the claimed invention.

Furthermore, one skilled in the art will not be motivated to arrange Tillmann's piston end portion orthogonally to the longitudinal direction of the unit 12, as is suggested by the Examiner, because such a modification will cause the piston end portion to extend orthogonally to the door panel in a normal use position of the door panel. Consequently, such orthogonal configuration not only compromises the aesthetic appearance of the modified door closer but also creates a hazardous situation to the users passing through the doorway. As a result, one skilled in the art will not modify Tillmann or rearrange the elements based on the combination of Tillmann and Fischbach to arrive at the claimed invention.

Accordingly, the combined art fails to teach or suggest "a first spring... extending orthogonally to the longitudinal housing direction," as recited in independent claim 18. Independent claim 18 is thus not obvious over Tillmann in view of Fischbach for at least the above reasons.

(ii)

Without any teaching or suggestion as to how Tillmann can be modified to include a brake fluid pumping system, it is not obvious to combine Tillmann and Fischbach to pump "a brake fluid at least one of to and from the first space," as recited in independent claim 18.

The Office Action acknowledges that Tillmann fails to teach "a pump for pumping a brake fluid at least one of to and from the first space," as recited in independent claim 18 but cites Fischbach's pump to remedy Tillmann's deficiencies. Appellants disagree because it is not obvious to combine Tillmann and Fischbach in order to pump a brake fluid to/from a space defined by a brake piston and the housing, as is recited in independent claim 18.

Tillmann teaches a door closer without a door opening mechanism.

Fischbach on the other hand teaches a pump 44, which can operate in both flow directions and is used together with an overload duct 12. The pump 44 is used for moving the rack 3, 4, as stated above, to rotate the shaft and open the door.

Neither Tillmann nor Fischbach teach or suggest how Tillmann can be modified to include a brake fluid pumping system. To integrate an operating mechanism, such as the motor/pump arrangement taught by Fischbach, into Tillmann's door closer, Tillmann is to be further modified in order for the proposed operating mechanism to cooperate with the various elements in Tillmann's existing door check. For example, Tillmann's piston chamber communicates with the housing interior by a check valve 46, a relief valve 48, channels 40-42, and a flow restrictor 43 (see Figs. 2 and 3 of Tillmann). Fischbach's pump 44 cannot be combined with Tillmann's door check without modifying and adjusting one or more of the check valve 46, the relief valve 48, and the flow restrictor 43. Consequently, one skilled in the art would not have recognized that the results of the combined Tillmann and Fischbach were predictable. See, MPEP § 2143.A. It is the applicants of the subject application who provide the door drive as recited in independent claim 18.

In fact, the incorporation of Fischbach's pump 44 may change the operation of Tillmann's check valve 46, relief valve 48, and flow restrictor 43 to the extent that such modification of Tillmann would change the principle of operation of Tillmann. Consequently, Tillmann and Fischbach are not sufficient to render the claimed invention *prima facie* obvious. See, MPEP §2143.01(VI).

Moreover, even if Tillmann and Fischbach can be combined, as suggested in the Office Action, the combined Tillmann and Fischbach fail to teach the above cited claim features of independent claim 18. More specifically, Fischbach does not teach that its overload duct 12 leads to "a first space" defined by the brake piston and the housing. In fact, Fischbach does not have such a first space as Fischbach does not have a brake piston. Therefore, Fischbach does not teach what Tillmann lacks.

In view of the above, the combined Tillmann and Fischbach fail to teach or suggest "a pump for pumping a brake fluid at least one of to and from the first space," as is recited in independent

claim 18. Independent claim 18 is thus not obvious over Tillmann and Fischbach for the above additional reasons.

C. Dependent Claims 19-35

Claims 19-35 depend, directly or indirectly, from allowable independent claim 18 and thus are each allowable therewith. In addition, claims 19-35 include features which serve to even more clearly distinguish the claimed invention over the prior art of record.

CONCLUSION

For the foregoing reasons, appellants respectfully submit that claims 18 to 35 are not rendered obvious by and are, therefore, patentable over the art of record. The Examiner's rejections should be reversed.

Respectfully submitted,
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CLAIMS PENDING ON APPEAL

Claims 1-17 have been previously canceled. Claims 18-35 are pending in this case and are listed below:

18. A door closer comprising:
 - a housing having a longitudinal housing direction;
 - a shaft supported in the housing and connectable to a door;
 - a brake piston supported in the housing and charging the shaft, the brake piston and the housing defining a first space away from the shaft;
 - a blocking member;
 - a first spring loading the blocking member and extending orthogonally to the longitudinal housing direction; and
 - a pump for pumping a brake fluid at least one of to and from the first space, the pump being disposed in a second space formed between the housing and the first spring,
 - wherein the shaft is lockable in a position by the blocking member.
19. The door closer of claim 18, further comprising a drive motor for driving the pump, the drive motor being disposed in the second space.
20. The door closer of claim 18, further comprising a tube-shaped bushing which is detachably connected to the housing and extends orthogonally to the longitudinal housing direction, the first spring being supported in the tube-shaped bushing.

21. The door closer of claim 19, further comprising a tube-shaped bushing which is detachably connected to the housing and extends orthogonally to the longitudinal housing direction, the first spring being supported in the tube-shaped bushing.

22. The door closer of claim 21, further comprising a casing detachably connected to the housing and the tube-shaped bushing, the pump and the drive motor being received in the casing.

23. The door closer of claim 21, further comprising a casing detachably connected to the housing and the tube-shaped bushing, the drive motor being received in the casing.

24. The door closer of claim 20, wherein the blocking member comprises a cup-shaped insert displaceably supported in the tube-shaped bushing.

25. The door closer of claim 24, wherein the cup-shaped insert has a bottom facing the shaft, the blocking member further comprising a support which protrudes from the bottom of the cup-shaped insert into the housing and has a roller cooperating with the shaft.

26. The door closer of claim 24, wherein the first spring is disposed in the tube-shaped bushing and loads the cup-shaped insert in the longitudinal housing direction.

27. The door closer of claim 24, further comprising a friction or wear reducing element between the tube-shaped bushing and the cup-shaped insert.

28. The door closer of claim 18, further comprising an eccentric disc mounted on the shaft, and a second spring which charges the brake piston toward the eccentric disc.

29. The door closer of claim 18, further comprising a seal between the housing and the brake piston.

30. The door closer of claim 18, further comprising a valve arrangement, and wherein the brake piston is lockable in a predetermined position by means of the valve arrangement.

31. The door closer of claim 30, wherein the valve arrangement comprises a regulating valve, and a shut-off valve which affects flow of the regulating valve.

32. The door closer of claim 31, wherein the shut-off valve automatically opens at a predetermined pressure.

33. The door closer of claim 31, wherein the shut-off valve is operable to be electromagnetically actuated.

34. The door closer of claim 28, wherein the brake piston comprises a roller which engages the eccentric disc.

35. The door closer of claim 18, wherein the brake piston is coupled to the shaft by means of a rocker and an eccentric disc.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.